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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,600	02/22/2006	Peter John Nicolson	4251-23 (AMK)	3372

23117 7590 10/02/2007
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ARLINGTON, VA 22203

EXAMINER

ALIE, GHASSEM

ART UNIT	PAPER NUMBER
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3724

MAIL DATE	DELIVERY MODE
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10/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/563,600

Applicant(s)

NICOLSON ET AL.

Examiner

Ghassem Alie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 15, 18-26 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-14 and 16-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/06/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election without traverse of Group II (claims 9-19) Species IIA and IB in the reply filed on 09/18/07 is acknowledged.
2. Claims 1-8, 15, 18-26, and 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species II-VIII, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/09/07.

Specification

3. The abstract of the disclosure is objected to because "as they are forced into the position shown" is not clear. It is not clear in which position the teeth are forced into. Correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 9, "a plurality of relatively hard teeth" is not clear. It is not clear relative to what structure or material the teeth are harder. In addition, "a carrier of relatively soft material" is not clear. It is not clear relative to what material or structure the carrier material is considered to be soft. It appears that claim 9 should read, --a carrier from of softer material relative to the hard teeth--. Regarding claim 14, "the inserts" lacks antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 9-10, 12-13, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nicholson et al. (WO 01/83143 A1), hereinafter Nicholson. Regarding claim 9, as best understood, Nicholson teaches a method of making a saw blade, the method includes fabricating a plurality of relatively hard teeth 22 having characteristics, mounting the teeth at desired spaced mounting positions on a carrier 10 of relatively soft material and securing the teeth in their position. It should be noted that the teeth or inserts 22 are prefabricated and are made of hard material. The inserts 22 are secured in their positions by removing material from the edge of the carrier 10 to form a saw blade with teeth. It should also be noted that the inserts or teeth 22 have differing characteristics by having such as convex portions and concave portions.

Regarding claim 10, Nicholson teaches everything noted above including that the teeth 22 differ in shape. It should be noted that the teeth 22 are differ in shape by having differing characteristics.

Regarding claims 12-13, Nicholson teaches everything noted above including that the mounting of the teeth in the carrier causes deformation and displacement of the material of the carrier 10. Nicholson also teaches that the deformation is achieved by forcing the teeth 22 into the apertures 20.

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Regarding claim 17, Nicholson teaches everything noted above including that the blade has a linear edge.

8. Claims 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mobley (4,011,783). Regarding claim 9, as best understood, Mobley teaches a method of making a saw blade, the method includes fabricating a plurality of relatively hard teeth 14, 15 having differing characteristics, mounting the teeth at desired spaced mounting positions on a carrier 10 of relatively soft material and securing the teeth in their position. It should be noted that the teeth 13, 15 have different characteristics since teeth 13 is high teeth and teeth 14 is low teeth. It should also be noted that body 10 is made from steel which is softer relative to the teeth 13, 15 which are made from tungsten carbide. See Figs. 1-6 and col. 1, lines 52-65 in Mobley.

Regarding claim 10, Mobley teaches everything noted above including that the teeth 13, 15 differ in shape. It should be noted that the teeth 13 and 15 have different shape.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9-10, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baez Rios (3,945,289), hereinafter Rios, in view of Mobley. Regarding claim 9, as best understood, Rios teaches a method of making a saw blade 10, the method includes fabricating a plurality of relatively hard teeth 15, mounting the teeth 15 at desired spaced

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mounting positions on a carrier 11 and securing the teeth in their position. See Figs. 1-9 and col. 3, lines 26-60 and col. 5, lines 4-30 in Rios. Rios teaches that the teeth are made of relatively hard material. Rios does not explicitly disclose that the carrier 11 is made of relatively softer material and the teeth having differing characteristics. However, the use of disk or carrier made from relatively softer material relative to the inserts or teeth of a saw blade is well known in the art such as taught by Mobley. Mobley teaches teeth 13, 15 made from harder material relative to the carrier 10. Mobley also teaches that the teeth 13, 15 have different characteristics. It would have been obvious to form the carrier of Rios' saw blade from a softer material relative to the teeth in order to reduce the cost and ensure that teeth fits or inserted easily into the slots in the carrier. In addition, it would have been obvious to a person of ordinary skill in the art to provide Rios' saw blade with teeth having different characteristics, as taught by Mobley, in order to equip the saw blade with diverse cutting actions or capabilities.

Regarding claim 10, Rios, as modified by Mobley, teaches everything noted above including that the teeth 13, 15 differ in shape. It should be noted that the teeth 13 and 15 have different shape.

Regarding claim 10, Rios, as modified by Mobley, teaches everything noted above including that the teeth 13, 15 differ in shape. It should be noted that the teeth 13 and 15 have different shape.

Regarding claim 16, Rios, as modified by Mobley, does not explicitly teach that the pitch of the teeth varies along the carrier. However, Official notice is taken that the use of

teeth having pitch that varies along the carrier of a saw blade is well known in the art such as evident in Kullmann et al.

Regarding claim 17, Rios teaches everything noted above including that the blade has a linear edge. See Fig. 2 in Rios.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rios in view of Mobley, as applied to claim 9, and in further view of Yong et al. (2004/0003946), hereinafter Yong. Regarding claim 11, Rios, as modified by Mobley, teaches everything noted above except that the teeth differ in composition. However, the use of cutting teeth have different compositions in a cutting apparatus is well known in the art such as taught by Yong. Yong teaches a cutting apparatus 10 having teeth or cutting inserts with different characteristics and composition. See Figs. 7-14 in Yong. It would have been obvious to a person of ordinary skill in the art to form the teeth of Rios, saw blade, as modified by Mobley, with different composition, as taught by Yong, in order to provide the saw blade with different cutting capabilities.

12. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rios in view of Mobley, as applied to claim 9, and in further view of Fujii et al. (2001/0002559), hereinafter Fujii. Regarding claims 12-13, Rios, as modified by Mobley, teaches everything noted above except that the mounting of the teeth in the carrier caused deformation and displacement of the material of the carrier. Rios teaches that teeth 15 can be press fit in the slot or apertures 16 in the rim of the carrier. Rios also teaches that other mounting techniques could be used for mounting the teeth to the carrier. Fujii teaches that a cutting member 11 can be press fit or forced into the carrier 12 in a manner that the cutting member causes

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deformation and displacement of the carrier. See Fig. 1-3 and paragraph 20 in Fujii. It would have been obvious to a person of ordinary skill in the art to mount the teeth to the carrier of Rios' saw blade, as modified by Mobley, with the technique, as taught by Fujii, in order to achieve a tight fit between the teeth and the slots in the carrier.

Regarding claim 14, Rios, as modified by Fujii, teaches everything noted above including that the teeth have teeth roots with peripheries which form cutting edges to displace the material of the carrier as the inserts are forced into position.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hayden et al. (4,784,033), Conklin (1,180,377), Chaconas (4,690,024), Lavinder (5,743,163), Hill (239,098), Ellis (4,214,499) teach a saw blade having teeth inserted into the slots in the carrier.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

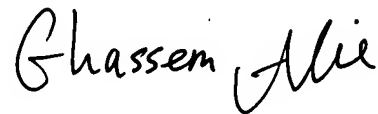
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Ghassem Alie
Patent Examiner
Art Unit 3724

GA

September 27, 2007

A handwritten signature in black ink that reads "Ghassem Alie". The signature is written in a cursive style, with the first name "Ghassem" and the last name "Alie" clearly distinguishable.